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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,329	04/25/2007	Gavin David Cowie	C64-8285	4677

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EXAMINER	
BUCK, MATTHEW R	

ART UNIT	PAPER NUMBER
3671	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,329	COWIE ET AL.	
	Examiner	Art Unit	
	MATTHEW R. BUCK	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) *19-26,34,35,37 and 42-47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18,27-33,36 and 38-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 July 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/21/2006, 05/01/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-18, 27-33, 36 and 38-41 in the reply filed on 07/21/2009 is acknowledged.

Claim Objections

2. Claims 8, 32 and 38 are objected to because of the following informalities: (claim 8, line 1) "claim 8" should be changed to "claim 7" since it is improper for a claim to claim dependency from itself; (claim 36, line 6) "plus" should be changed to "plug"; (claim 38, line 4) "ement" should be changed to "element". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5, 12 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 5 recites the limitations "the offset bore valve seat" in line 1. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 12 recites the limitations "said guide shafts" in line 2 and "the guide shafts" in line 4. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 38 recites the limitation "said suspension valve housing" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 7, 14, 27, 28 and 38-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Garnham et al. (5992527).

10. As concerns claim 1, Garnham shows a suspension valve housing (10), said valve housing having a production bore (11); a valve element (13A, 13B) disposed in said suspension valve housing; said valve being remotely actuatable between an open position and a closed position (column 2, lines 11+; column 3, lines 45+).

11. As concerns claim 7, Garnham shows actuation means coupled to the ball element for permitting remote actuation of the ball element (column 2, lines 25-29).

12. As concerns claim 14, Garnham shows providing a dual bore tubing hanger (10, 6) having a production bore (11, 8) and an annulus bore (12, 9), disposing a remotely operable valve (13A, 13B) in said production bore, and actuating the valve remotely between an open and a closed position (column 2, lines 11+; column 3, lines 45+).

13. As concerns claim 27, Garnham shows a subsea installation tree (20, 10) incorporating a suspension valve (13A, 13B) as claimed in claim 1.

14. As concerns claim 28, Garnham shows a tubing hanger (10, 6) for use with a hybrid tree insert, said tubing hanger having a completion suspension valve (13A, 13B) as claimed in claim 1.

15. As concerns claims 38 and 39 as best understood, Garnham shows a valve housing (10), said valve housing having a production bore (11) and an annulus bore (12); a production bore valve element (13A, 13B) disposed in said valve housing and an annulus bore valve element (15) disposed in said valve housing; said valves being remotely actuatable in said housing between an open position and a closed position (column 2, lines 11+; column 3, lines 45+).

16. As concerns claims 40 and 41, Garnham shows a valve housing (10), said valve housing having a production bore (11) and an annulus bore (12); a production bore valve element (13A, 13B) disposed in said production bore and an annulus bore valve element (15) disposed in said annulus bore, single actuator means moveable within said housing for actuating the production valve element and the annulus valve element to move between a close and an open position, and said actuator means being remotely operable to move said valves between said open and closed positions (column 2, lines 11+; column 3, lines 45+).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 2-5 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garnham alone.

19. As concerns claims 2, 3, 5 and 36, it would have been an obvious matter of design choice to have a production bore which is offset from the centre of the valve housing, a valve element which is a ball valve with a valve bore offset from the centre of the ball, and an offset bore valve seat, as Applicant has not disclosed that it solves any stated problem of the prior art or is for any particular purpose.

20. As concerns claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a flapper valve since examiner takes Official Notice of the equivalence of a flapper valve and a ball valve for their use in the art and the selection of any of these known equivalents would be within the level fo ordinary skill in the art.

21. Claims 6, 9-12, 15, 18 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garnham as applied to claims 1 and 14 above, and further in view of Garcia-Soule et al. (5884703).

22. As concerns claim 6, Garnham lacks to show wherein an inclined groove is disposed in said production bore for receiving an elastomeric seal with the lowest part of the groove being disposed adjacent to the thinnest part of the valve seat to minimise the length of seat exposed to differential pressure. However, Garcia-Soule teaches wherein an inclined groove is disposed in said production bore for receiving a seal with the lowest part of the groove being disposed adjacent to the thinnest part of the valve seat to minimise the length of seat exposed to differential pressure (column 8, lines 52+). One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in

Garcia-Soule et al. because a seal is known to provide means for sealing around a ball valve since as set forth by the Supreme Court in the KSR decision, use of known techniques to improve similar devices in the same way is known.

23. As concerns claim 9, Garnham lacks to show wherein said valve element may be actuated to remain in an open position, said system including ram means for moving between a first non-engaged position wherein said valve element remains normally open and a second engaged position where the valve is set in the open position. However, Garcia-Soule teaches wherein said valve element (20) may be actuated to remain in an open position, said system including ram means (30, 32) for moving between a first non-engaged position wherein said valve element remains normally open and a second engaged position where the valve is set in the open position (column 9, lines 5+). One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Garcia-Soule et al. because ram means is known to provide means for actuating a valve element between an open and closed position, since as set forth by the Supreme Court in the KSR decision, use of known techniques to improve similar devices in the same way is known.

24. As concerns claims 10-12 and 18, Garnham lacks to show wherein said ram means has locking mandrel means for engaging with a locking nipple and said mandrel means being actuatable by the ram means to move the locking nipple from a first unlocked position to a second locked position, such that when the nipple is in said second locked position the ball element is locked in the open position; wherein the

nipple is normally retained to the housing by means of a shear pin; and wherein the nipple has two legs, one leg being coupled to each of said guide shafts so that as said mandrel and ram move to engage and move the nipple towards said ball element, the nipple movement causes the guide shafts to rotate and move the ball element to a fully open position. However, Garcia-Soule teaches wherein said ram means has locking mandrel means (84) for engaging with a locking nipple (96, 70) and said mandrel means being actuatable by the ram means to move the locking nipple from a first unlocked position to a second locked position, such that when the nipple is in said second locked position the ball element is locked in the open position (column 14, lines 14+); wherein the nipple is normally retained to the housing by means of a pin (68); and wherein the nipple has two legs, one leg being coupled to each of said ram means so that as said mandrel and ram move to engage and move the nipple towards said ball element, the nipple movement causes the ram means to rotate and move the ball element to a fully open position (Fig. 15). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use a shear pin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. It is also common knowledge to choose a material that has sufficient strength, durability, flexibility, hardness, etc. for the application and intended use of that material. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Garcia-Soule et al. for the reasons stated above.

25. As concerns claim 15, Garnham lacks to show actuating the valve to a fully locked open position. However, Garcia-Soule teaches actuating the valve to a fully locked open position (column 14, lines 41+). One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Garcia-Soule et al. for the reasons stated above.

26. As concerns claims 31-33, Garnham lacks to show wherein said valve element is actuated to remain in the open position, said system including an override plug dimensionable to pass through an annulus bore and for engaging with the top of said actuation means, said override plug being responsive to pressure to force said actuation means downward to a lowermost position in an actuation bore whereby in said lowermost position the ball valve element is actuated to a fully open position, said, plug having locking means for engaging with said annulus bore when in said fully open position so that the annulus bore and the production bore are open; and wherein said override plug has an upper tubular housing, a lower plug pin coupled to the upper tubular housing by a shear pin, spring-loaded arms for locking the plug to the annulus bore when said production ball valve element is in the fully open position, and a retaining ring for retaining the spring-loaded arms when in an unlocked position, said retaining ring being releaseable by said lower plug pin when said override plus is in the locking position. However, Garcia-Soule teaches wherein said valve element (20) is actuated to remain in the open position, said system including an override plug (96, 70) and for engaging with the top of said actuation means (30, 32), said override plug being

responsive to pressure to force said actuation means downward to a lowermost position in an actuation bore whereby in said lowermost position the ball valve element is actuated to a fully open position, said, plug having locking means for engaging with said annulus bore when in said fully open position so that the annulus bore and the production bore are open (column 14, lines 41+); and wherein said override plug has an upper tubular housing, a lower plug pin (68) coupled to the upper tubular housing, spring-loaded arms for locking the plug to the annulus bore when said production ball valve element is in the fully open position, and a retaining ring (62) for retaining the spring-loaded arms when in an unlocked position, said retaining ring being releaseable by said lower plug pin when said override plug is in the locking position. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Garcia-Soule et al. for the reasons stated above. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made since the expected result of this configuration improves efficiency of the valve system design.

27. Claims 8, 13, 16, 17, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garnham as applied to claims 1 and 14 above, and further in view of Edwards (5884706).

28. As concerns claims 8, 16, 17, 29 and 30, Garnham lacks to show wherein the actuation means comprising at least two moveable guide shafts disposed substantially parallel to the production bore, at least two actuation bars coupled between the

respective guide shafts and to the apertured ball element, the actuation bars being coupled to the guide shafts by rotatable pin joints, and being slidingly located in respective bar pockets of said ball element. However, Edwards teaches wherein the actuation means comprising at least two moveable guide shafts (32) disposed substantially parallel to the production bore, at least two actuation bars (22) coupled between the respective guide shafts and to the apertured ball element, the actuation bars being coupled to the guide shafts, and being slidingly located in respective bar pockets of said ball element. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have a separate guide shaft and actuation bar, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Edwards because these features are known to provide means for actuating a valve element between an open and closed position, since as set forth by the Supreme Court in the KSR decision, use of known techniques to improve similar devices in the same way is known.

29. As concerns claim 13, Garnham lacks to show wherein said ball is allowed to float upwards when in said closed position to maintain a contact force between the valve seat and ball surface in proportion to the prevailing differential pressure, by providing trunnions with two arcuated portions and a rebate in each trunnion bore bearing for receiving said arcuate portion when the ball is in the closed position. However, Edwards teaches wherein said ball (18) is allowed to float upwards when in

said closed position to maintain a contact force between the valve seat and ball surface in proportion to the prevailing differential pressure, by providing trunnions with two arcuated portions (26, 28) and a rebate in each trunnion bore bearing for receiving said arcuate portion when the ball is in the closed position. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the structure taught in Garnham et al. with the elements taught in Edwards because this feature is known to provide means for sealing around a ball valve since as set forth by the Supreme Court in the KSR decision, use of known techniques to improve similar devices in the same way is known. Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made since the expected result of this configuration improves efficiency of the valve system design.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW R. BUCK whose telephone number is (571) 270-3653. The examiner can normally be reached on Monday through Friday 7:30am - 5:00pm E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Will can be reached on (571) 272-6998. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas A Beach/
Primary Examiner, Art Unit 3671

mrb